

REMARKS

Claims 1 to 3, 5 to 9 and 11 to 27 are pending. Claims 19 to 27 are new.

No claims are allowed.

1. Claims 1, 3, 5 to 7, 9, 11 to 14 and 16 to 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steiner et al. (U.S. Patent No. 6,669,701) in view of Foley et al. (U.S. Patent No. 5,681,311).

Steiner et al describes a bone plate comprising an upper surface, a bone contacting lower surface, and at least one combination hole 4 extending through the plate from the upper surface to the lower, bone contacting surface thereof. The combination hole 4 is capable of receiving a bone screw 11 that is used to hold the plate on a fractured bone. As described at column 4, lines 37 to 42, "while two holes 4 are shown, the bone plate may be provided with any number of holes as may be suitable for specific surgical applications. In addition, holes 4 may be disposed along the longitudinal axis 3 as shown in Fig. 2, however, holes 4 may alternatively be spaced from the longitudinal axis 3."

As described at column 4, lines 50 to 65, "the combination hole 4 consists of a first, substantially circular portion 14, and a second, elongated portion 24. The circular portion 14 and the elongated portion 24 overlap one another, and are thus in communication with one another."

At column 5, lines 10 to 18, the elongated portion 24 of the combination hole 4 is described as having a "substantially spherical recess 6 that opens toward upper surface 1 of the bone plate. When the shaft of a bone screw having a spherical head is located eccentrically in elongated portion 24 (towards the left

in FIG. 3), the spherical head may engage recess 6 and bias the bone plate to provide compression of the bone fracture."

Further, at column 5, lines 19 to 28, the circular portion 14 of the combination hole 4 is described as having internal threads 5 that "may be disposed in a single plane, or in several planes. The plane(s) may be parallel to upper surface 1 and/or bone contacting surface 2. According to the embodiment shown, thread 5 extends substantially over the entire height of the bone plate from the upper surface 1 to the bone contacting surface 2. In the case where thread 5 is provided, it is preferably oriented at the end of hole 4 that is closest to the center of the bone plate."

At column 5, lines 55 to 66, one embodiment of the bone plate includes "a first section 30 that, as described above, has a first longitudinal axis 3, and a second section 32 that similarly has a second longitudinal axis 33. As shown, the first and second longitudinal axes 3, 33 may be angled with respect to one another. In addition, the first and second sections 30, 32 may have different lengths, e.g., the first section may be longer than the second section. For example, the bone plate may be substantially T-shaped, as shown in FIG. 6, or L-shaped, as shown in FIG. 5, although other configurations are possible. The sections may also be located in different planes. For instance, as shown in FIG. 7, the plate may be bent or twisted such that the bone contacting surface of the first section 30 is located in a first plane 40 and the bone contacting surface of the second section 32 is located in a second plane 42 different from the first plane 40. This may be beneficial where the bone plate has to be located over a curved portion of a bone, such as the femoral head."

Independent claims 1, 7 and 14 have been amended to set forth that the bone plate comprises a head portion and an

elongate lower portion extending from the head portion. At least one complex aperture is located in the head portion and a second complex aperture is located in the elongated lower portion. Respective first and second longitudinal axes of the first and second complex apertures are angled with respect to each other.

Each of these complex apertures comprise a "compression ramp extending from an oval shaped opening at the top side of the plate downwardly and inwardly part way through the plate thickness to a threaded lower portion having an hourglass shape extending from where the upper portion ends at the hourglass shape to the bottom side of the bone plate with threaded surfaces of the overlapping holes meeting each other at an overlap forming the hourglass shape, the lower portion being adapted to lock with threads of a corresponding bone screw in either one or the other of the overlapping holes".

The examiner concedes that Steiner et al. does not teach such complex apertures. He writes on page 3 of the office action that "Steiner et al. fail to disclose the overlapping holes each being threaded".

The Foley et al. patent teaches a bone fixation apparatus 10 comprising slots 64 that allow for controlled flexing. In that respect, this reference does not fill the void between Steiner et al. and the presently claimed bone plate having at least the first and second complex apertures with their respective longitudinal axes angled with respect to each other.

Accordingly, amended independent claims 1, 7 and 14 are believed to be allowable over the combination of Steiner et al. in view of Foley et al. Claims 3, 5, 6, 9, 11 to 13 and 16 to 18 are patentable as hinging from allowable base claims.

Reconsideration of this rejection is requested.

2. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steiner et al. in view of Foley et al. and in further view of Cesarone (U.S. Patent No. 5,851,207).

The examiner's characterization of Cesarone is essentially correct. Nonetheless, this reference does not teach a bone plate comprising, in the words of the examiner, "overlapping holes each being threaded." For at least that reason, Cesarone does not render amended independent claim 14, from which claim 15 depends, unpatentable. Accordingly, claim 15 is patentable as hinging from an allowable base claim.

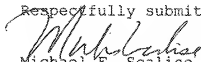
Reconsideration of this rejection is requested.

3. Independent claim 23 is new. This claim is directed to a bone plate having a first complex aperture located in the head portion, a second complex aperture located in the elongated lower portion and a third complex aperture located in the head portion. The longitudinal axes of the first and second complex apertures are axially aligned. However, the third longitudinal axis of the third complex aperture is angled with respect to the axially aligned first and second complex aperture.

An exemplary structure is illustrated in the applicants' specification in Fig. 1a for a bone plate with the fourth aperture having a rounded shape (claim 23) and in Fig. 2 for an elongated slot (claim 24).

It is believed that claims 1 to 3, 5 to 9 and 11 to 27 are now in condition for allowance. Notice of Allowance is requested.

Respectfully submitted,



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